

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A vibration compensation apparatus comprising:
an angular velocity detector that detects angular velocities in vibration detection axes directions, the vibration detection axes being two orthogonal detection axes, and outputs corresponding angular velocity signals;

a compensation unit that compensates vibration in vibration compensation axes directions, the vibration compensation axes being two orthogonal axes that make an angle with said vibration detection axes due to deviation of alignment between said angular velocity detector and said compensation unit; and

a conversion unit that converts the angular velocity signals expressed in the vibration detection axes directions obtained by said angular velocity detector or vibration compensation signals based on the angular velocity signals into angular velocity signals or vibration compensation signals expressed in the vibration compensation axes directions using equations for rotation transformation based on said angle,

wherein said compensation unit compensates the vibration based on the angular velocity signals or vibration compensation signals converted by said conversion unit, and said conversion unit performs the following operations:

$$X = x \cos \theta - y \sin \theta$$

$$Y = y \cos \theta + x \sin \theta$$

wherein x and y are the angular velocity signals expressed in the vibration detection axes direction or compensation signals based on the angular velocity signals. θ is said angle made by the vibration detection axes and the vibration compensation axes, and X and Y are converted signals.

2. (Cancelled)

3. (Previously Presented) The vibration compensation apparatus according to claim 1, wherein said conversion unit has a conversion table storing angular velocity signal values or vibration compensation signal values expressed in the vibration detection axes directions to be used in the conversion operation in accordance with angular velocity signals or vibration compensation signals expressed in the vibration compensation axes directions.

4 (Original) The vibration compensation apparatus according to claim 1, wherein said compensation unit comprises an optical compensation unit.

5 (Previously Presented) An image sensing apparatus comprising:
a photoelectric converter that senses an image by converting incident light into an electric signal; and
the vibration compensation apparatus according to claim 1,
wherein said compensation unit compensates vibration by controlling read out timing of the electric signal from said photoelectric converter.

6 (Original) An image sensing apparatus comprising:
an photoelectric converter that senses an image by converting incident light into an electric signal; and
the vibration compensation apparatus according to claim 1,
wherein said compensation unit compensates vibration by processing the electric signal outputted from said photoelectric converter.

7. (Currently Amended) A vibration compensation method using an angular velocity detector which detects angular velocities in vibration detection axes directions, the vibration detection axes being two orthogonal detection axes, and outputs angular velocity signals, and a compensation unit which compensates vibration in vibration compensation axes directions, the vibration compensation axes being two orthogonal axes that make an angle with said vibration detection axes due to deviation of alignment between said angular velocity detector and said compensation unit, comprising:

converting the angular velocity signals expressed in the vibration detection axes directions obtained by said angular velocity detector or vibration compensation signals based on the angular velocity signals into angular velocity signals or vibration compensation signals expressed in the vibration compensation axes directions using equations for rotation transformation based on said angle; and

compensating the vibration by controlling the compensation unit based on the converted angular velocity signals or vibration compensation signals,

wherein converting said angular velocity signals includes performing the following operations:

$$X = x \cos \theta - y \sin \theta$$

$$Y = y \cos \theta + x \sin \theta$$

wherein x and y are the angular velocity signals expressed in the vibration detection axes direction or compensation signals based on the angular velocity signals, θ is said angle made by the vibration detection axes and the vibration compensation axes, and X and Y are converted signals.

8. (Previously Presented) A storage medium, readable by an information processing apparatus, storing a program including program codes capable of realizing the vibration compensation method according to claim 7, the program being executable by the information processing apparatus.